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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------|------------------------|
| 10/658,464 | 09/10/2003 | Yoshiaki Katou | 088473-0140 | 2200 |
| 22428 7590 02/27/2007 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007 | | | EXAMINER PHAN, HAU VAN | |
| | | | ART UNIT 3618 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS | | | MAIL DATE 02/27/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/658,464

Applicant(s)

KATOU ET AL.

Examiner

Hau V Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-7,11-13,15-20 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,8-10 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Acknowledgment

1. The request for reconsideration filed on 2/5/2007 has been entered.
2. Since this application is eligible for the transitional procedure of 37 CFR 1.129(a), and the fee set forth in 37 CFR 1.17(r) has been timely paid, the finality of the previous Office action is hereby withdrawn pursuant to 37 CFR 1.129(a). Applicant's request for reconsideration submission after final filed on 2/5/2007 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-2, 4-5, 8-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (6,481,517) in view of Manaka (6,434,928).**

Kabayashi et al. in figures 1-12, disclose a drive apparatus for a hybrid vehicle. The drive apparatus comprises an internal combustion engine (E), a damper connected on one side thereof to a rear of the engine and a motor-generator (M) connected on one side thereof to another side of the damper. The motor-generator is being capable of starting the engine. Kabayashi et al. also disclose a clutch (C) connected on one side thereof to another side of the motor-generator, a transmission (T) connected to the

internal combustion engine via the damper. Kabayashi et al. also disclose a dividing wall (94) that is disposed between the motor and the clutch. The dividing wall is made of an iron plate. Therefore, it can be considered a magnetic material. The motor-generator, and the clutch and a starter motor (102) connected to the damper. The starter motor being capable of starting the engine. Kabayashi et al. also disclose a battery (10) and control means for controlling the engine, the normal starting means, the restarting means, the engaging means and the transmission. Kabayashi et al. fail to show the clutch in magnetic.

Manaka in figure 3, teaches a simplified hybrid type vehicle comprising a magnetic clutch (32), which is configured to engage by electromagnetic force. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the drive apparatus for a hybrid vehicle of Kabayashi et al. with the simplified hybrid type vehicle having a magnetic clutch as taught by Manaka in order to improve a torque performance of an engine in the hybrid vehicle.

Regarding claim 2, Kabayashi et al. disclose the drive apparatus further comprising a front and back selector mechanism via which the transmission connects to the clutch, and a control system (16) controlling a drive state of the motor-generator, the starter motor, an engagement state of the clutch, and a shift state of the transmission .

Regarding claim 4, Manka disclose the clutch comprising a pilot clutch of small diameter which engages by electromagnetic force, a cam mechanism which changes

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engagement force of the pilot clutch into axial-direction thrust, and a main clutch of large diameter which is made to engage by the axial-direction thrust.

Regarding claim 5, Kabayashi et al. disclose the motor-generator comprising a rotor, an outer diameter of the rotor being greater than respective outer diameters of the clutch and the damper. The motor-generator being disposed between the damper and the clutch.

Regarding claim 8, Kabayashi et al. disclose the motor-generator, which is supported on an input shaft, which is joined to a clutch drum of the clutch as an integral body. The input shaft being supported by the dividing wall via a bearing.

Regarding claim 9, Kabayashi et al. disclose a tip end of the input shaft, which is extended so as to be disposed within and supported by an end of the output shaft of the engine via a bearing.

Regarding claim 10, Kabayashi et al. disclose the motor-generator comprising a stator, which overlaps the clutch and the damper in the radial direction around the respective outer circumferences thereof.

Regarding claim 12, Kabayashi et al. disclose the damper further comprising a ring gear disposed on an outer circumference thereof. The ring gear meshes with the starter motor.

Allowable Subject Matter

5. Claims 6-7, 11, 13, 15-20 are allowed.
6. The following is an examiner's statement of reasons for allowance.

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The prior art does not teach the drive system for a hybrid vehicle as recited in claim 18, which includes an impervious inflatable metal bag fixed to a support. The impervious inflatable bag includes a control system which detects a speed of the vehicle, a state of a brake switch, and a temperature of oil in the transmission, and which determines execution of an idle-stop function to temporarily stop the engine. The control system executing the idle-stop function if a set of idle-stop conditions including the vehicle speed being 0 km/h, the brake switch being in an ON state, and the oil temperature being within a predetermined range are met, the engine being started with the motor-generator when the brake pedal is released during execution of the idle-stop function. This recitation, in combination with the rest of the recited elements, clearly defines over the prior art.

Response to Arguments

7. Applicant's arguments with respect to claims 1-2, 4-5, 8-10 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau V. Phan whose telephone number is 571-272-6696. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on 571-272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hau V Phan
Primary Examiner
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2/20/07